

**WHAT IS CLAIMED IS:**

1. Polyisocyanates which
  - A) have a mean NCO functionality  $\geq 2$ ,
  - 5 B) have a content of blocked NCO groups (calculated as NCO, molecular weight = 42) of from 2.0 to 17.0 wt.%,
  - C) have a content of from 1 to 30 wt.% alkoxy groups as a constituent of allophanate and, optionally, urethane groups, the molar ratio of allophanate groups to urethane groups being at least 1:9, and
  - 10 D) optionally contain auxiliary substances or additives,

wherein at least 95 mol.% of the free NCO groups are blocked with a blocking agent of the formula  $R^1R^2NH$ , in which  $R^1$  and  $R^2$  are each independently of the other aliphatic or cycloaliphatic  $C_1$ - $C_{12}$ -alkyl radicals.
- 15 2. The polyisocyanates according to claim 1, wherein the polyisocyanates are based on aliphatic and/or cycloaliphatic diisocyanates.
3. The polyisocyanates according to claim 1, wherein the molar ratio of  
20 allophanate groups to urethane groups is at least 3:7.
4. A process for the preparation of the polyisocyanates according to claim 1 comprising reacting
  - a) 25 at least one polyisocyanate having a mean NCO functionality  $\geq 2$  and an NCO content (calculated as NCO; molecular weight = 42) of from 8.0 to 27.0 wt.%, with
  - b) at least one alcohol to form urethane groups and
  - c) optionally with the addition of at least one catalyst, such a proportion of the urethane groups is converted to allophanate  
30 groups that the molar ratio of allophanate groups to urethane groups is at least 1:9, and the remaining isocyanate groups, which

is then reacted with

- d) a blocking agent of the formula  $R^1R^2NH$ , in which  $R^1$  and  $R^2$  are each independently of the other aliphatic or cycloaliphatic  $C_1$ - $C_{12}$ -alkyl radicals, so that at least 95 mol.% of the isocyanate groups are in blocked form.

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5. The process according to claim 4, wherein such a proportion of the urethane groups are converted to allophanate groups that the molar ratio of allophanate groups to urethane groups is at least 3:7.

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6. A method of making polyurethane materials and coatings comprising mixing the polyisocyanate of claim 1 with constituents for making the polyurethane materials and coatings.

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7. Substrates coated with coatings according to claims 6.

8. A method of making polyurethane materials and coatings comprising mixing the polyisocyanate of claim 2 with constituents for making the polyurethane materials and coatings.

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9. Substrates coated with coatings according to claims 8.

10. A method of making polyurethane materials and coatings comprising mixing the polyisocyanate of claim 3 with constituents for making the polyurethane materials and coatings.

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11. Substrates coated with coatings according to claims 10.